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ABSTRACT

Up to 10 percent of U.S. workers are either functionally illiterate or marginally literate. These workers increase the operational costs of their employers and restrain companies' flexibility. The high school graduates of the 1990s will exacerbate the problem by entering the work force with marginal literacy skills. A survey of 1,600 manufacturing and service firms received 163 usable responses revealing that most companies do not test for literacy or mathematical skills. Employers agree that literacy is a major problem, one that acts as a drag on the nation's ability to compete with Asian and European nations. A large number of companies provide funds and support to the community and educational groups engaged in adult literacy programs and are showing results. Business executives suggested goals that could become a literacy agenda for business: (1) develop a definition of the term "literacy"; (2) institute an auditing system to assess the extent of workplace literacy; (3) determine what skills employees need; (4) take advantage of the research and skills in teaching literacy that already exist; (5) institute a system to advise local residents of the literacy scores of high school graduates; and (6) encourage greater use of employer consortia in literacy programs. (NLA)

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The Conference Board

Report Number 947

Literacy in the Work Force

A survey of major corporations finds:

- *illiteracy is a "quietly growing problem" for U.S. employers*
- *as many as one-third of today's workers are ill-prepared for modern workplace assignments*
- *most companies do not screen job applicants for literacy*
- *in-company and community remedial programs are few, piecemeal and largely unevaluated*
- *companies agree on the immediate need for a "literacy agenda"*

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Founded in 1916, The Conference Board's twofold purpose is to improve the business enterprise system and to enhance the contribution of business to society.

To accomplish this, The Conference Board strives to be the leading global business membership organization that enables senior executives from all industries to explore and exchange ideas of impact on business policy and practices. To support this activity, The Conference Board provides a variety of forums and a professionally managed research program that identifies and reports objectively on key areas of changing management concern, opportunity and action.

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Literacy in the Work Force

by Leonard Lund and E. Patrick McGuire

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Method

This study was conducted during the winter of 1990. It is based on a mail survey of 1,600 manufacturing and service firms. A total of 163 firms provided usable responses.

Distribution of Survey Respondents by Industry Type

Industry Category	*Percent*	*Distribution*
Manufacturing	41.7	
Mining and construction		4.4
Nondurable manufacturing		13.9
Durable manufacturing		23.4
Service Industries	58.3	
Transportation/commercial services		3.8
Retail and wholesale trade		7.6
Financial services		43.7
All other services		3.2
	100%	**100%**

Distribution of Survey Respondents by Employment Size

Number of Employees	*Percent*	*Distribution*
Fewer than 500		4.5
500-999		7.1
1,000-4,999		39.4
More than 5,000		49.0
		100%

Field and telephone interviews of selected respondents provided further information on company policies and practices. Unless otherwise noted, there were no significant differences between manufacturing and service firms reporting. The overwhelming number of respondents were from major employers, which, as one would expect, have a greater range of experience with illiteracy in the work force. Companies employing 1,000 or more people accounted for 88 percent of the responses. Less than 5 percent of the responses came from businesses employing fewer than 500 people.

From the President

Whether America remains competitive in the 1990s and beyond will be determined largely by the skills of its workers. No skill is more basic than literacy. Millions of Americans cannot read, write or perform simple mathematical computations. These people are, at present, relegated to an employment underclass. Their earnings are meager and their job security tenuous in an economy that each year demands more technical sophistication of its workers.

Though many employers, unions, educators and community groups have come to recognize the consequences of illiteracy in the work force, much remains to be done. These groups must work together to bring literacy to those workers who lack basic skills. Further, they must help reform and reinforce the educational system to ensure that future generations of students do not enter the working world handicapped by illiteracy. This report examines the business community's perceptions of the problems posed by illiteracy in the work force and the contributions that business, education and community groups are making to address this issue.

PRESTON TOWNLEY
President and CEO

Highlights

Up to 10 percent of American workers are either functionally illiterate or, just, marginally literate. These workers often increase the operational costs of their employers and restrain companies' flexibility. The high school graduates of the 1990s are likely to exacerbate the problem. Many of these young men and women will enter the work force with literacy skills that are marginal at best.

This survey, based on responses from 163 major employers, finds that most companies do not test for literacy or mathematical skills. Very few know precisely how many of their employees are literate. Nonetheless, there is widespread agreement that illiteracy in the work force is a major problem, one that will act as a drag on the nation's ability to compete with Asian and European nations, many of which have higher literacy rates. Employers provided numerous examples of how illiteracy is retarding productivity.

Although many companies are concerned about illiteracy among their workers and expect the number of illiterate workers to increase, most have no in-house programs aimed at addressing the problem. A larger number provide funds and support to community and educational groups engaged in a variety of adult literacy programs. Together, these individual companies and partnership programs are beginning to show results. But more remains to be done—including the setting of standards for basic skills—in order to deal with what has become a major impediment to America's ability to compete in international markets.

Introduction

Each morning, more than 10 million American workers wake up in a foreign land. Most were born in America, speak our language, and look and sound like other Americans. But they are not. Many live their entire lives in a single neighborhood. Their capacity to earn a living is limited to simple, often menial tasks in familiar locations. No matter what kind of restaurant they eat in, the menu is in a foreign language. They are severely handicapped, but not by any physical incapacity or mental disorder. They are unable to read.

Many of these Americans have had some schooling. Some even boast high school diplomas. But they have failed to acquire a basic ability. A few have true reading disabilities, but most are dropouts or victims of an educational vice known as "social promotion"—the mindless passing of students from one grade to another regardless of their level of achievement. Many have learned to mask their ignorance, fooling family, friends and fellow workers. Others, by memorization and guile, have acquired drivers' licenses, constituting a significant hazard on American highways. All have been victimized by an educational system that, as a matter of birthright, was supposed to teach them how to read, write and do basic mathematics. But the system failed, and the illiterate victims, poorly prepared, have had to take their places in a world of work that is increasingly technical, complex and competitive.

There is an unfortunate tendency to blame schools for all the shortfalls of the current work force, although the school system is just one of the influences that have failed to advance the capabilities of the nation's youth. Nonetheless, the educational system is most responsible for improving basic skills, imparting a sense of values, and otherwise preparing young people for productive, fulfilling careers. In a paper prepared for the Ford Foundation, Gordon Berlin and Andrew Sum examined the relationship between literacy and social and economic status. They found that:

"...those with better basic skills—defined as the ability to read, write, communicate and compute—do better in school, at work, and in other key areas of their lives. They are more likely to...work more hours, earn higher wages, be more productive workers, and avoid bearing children out of wedlock. Conversely, those who are deficient in basic skills are more likely to be school dropouts, teenage parents, jobless, welfare dependent and involved in crime." [1]

Gains in productivity, and, in turn, the standard of living, require a more flexible, better-educated, more technology-friendly work force. A less literate work force is none of these. If we are to reassert world economic leadership, we must have the best-trained workers. The United States is competing with nations that have made prodigious efforts to upgrade the literacy and the skills of their people.

As we head toward the 21st century, the nation faces a major challenge in upgrading its schools and their product: literate, thinking young people. The six National Education Goals recently enunciated by President Bush and the nation's governors include two that are particularly relevant:

"Goal 3: By the year 2000, American students will leave grades four, eight, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, history and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning and productive employment in our modern economy.

"Goal 5: By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship." [2]

Clearly, the national agenda for the 1990s is to advance these goals by mobilizing the resources of business, government and education. But how prepared are we for this effort? The answer is that although some significant initiatives are under way, a great deal remains to be done.

[1] Gordon Berlin and Andrew Sum, *Toward a More Perfect Union: Basic Skills, Poor Families, and Our Economic Future*, Ford Foundation, New York, New York, 1988, pp. 1-2.

[2] *National Education Goals*, Adopted by the members of the National Governors' Assn. on February 25, 1990. Unpublished text.

Preparing for the Class of 1995

Educators know, with great precision, who will be in the high school class of 1995. They know how well they read, how well they do math, and what their work habits are likely to be. These students are in the eighth grade now, and the educational community has had eight years to assess their characteristics and ponder how well they will do in the work force. The results are not encouraging.

Almost a quarter of those now entering high school will fail to complete it. And most of those who do, according to current testing data, will be less literate than the graduates of a decade ago.

It seems to employers that each succeeding high school class is less literate than its predecessor. Year-by-year differences are probably too subtle to be detected easily, but it's clear that over a slightly longer period, significant and visible changes have been taking place in the demographics of the high school population. These, of course, will be reflected in the pool of entry-level job candidates. The number of high school graduates peaked in 1976-77 at 3.2 million. Since then it has fallen to 2.6 million in 1985-86 and is expected to drop to 2.5 million in 1991-92. It will only increase to 2.9 million after 1999 (see Table 6, page 14). In general, the high school class of 1995 will include more female students, more minorities and more poor and immigrant students than the class of 1985.

Demographers predict that more than four-fifths of all the female members of the class of 1995 at some time will enter the work force—and, except for absences for childbearing, stay there. Nationwide, women will make up nearly two-thirds of all the new job entrants between now and the year 2000. And 61 percent of the nation's female population will have regular jobs by then. As far as literacy is concerned, the female members of the class of 1995 will be no better or worse than their male counterparts. Despite movement toward more female employment in jobs historically dominated by males, most women will still be employed in clerical functions because they will be employed in the service sector. If women in services are poorly educated, as a large number of them will be, significant on-the-job training will be needed to equip them with the skills required to perform increasingly complex clerical tasks, most of which will require some computer literacy.

"Our industry is rushing ahead with automation, but there are still going to be a lot of clerical jobs to be done," says one insurance-company executive. "Based on what we see coming into the company now—and our work force is primarily female—we are in for some real problems. The error rate in some of our departments is likely to soar until we can get these new applicants trained to do these jobs."

The number of minority workers, primarily Blacks and Hispanics, will also increase significantly. In such states as Texas and California, more than half the class of 1995 will be Black, Hispanic or Asian. Overall, Blacks, Hispanics and new immigrants—both men and women—will make up 43 percent of the new job entrants in the next 10 years.

In many instances, the minority students in the class of 1995 will have been the victims of underfunded, understaffed urban school systems. In addition, a larger number of these students will come from poor, urban households, often from single-parent families. The SAT scores of students from such systems—with the notable exception of some Asian groups—have eroded steadily in the past decade. The enrollment of these students in college has actually declined by 3 percent. With college costs climbing and government support for tuition continuing to decline during the Bush administration, it is likely that even fewer minority members of the class of 1995 will go on to college.

In terms of literacy, the less affluent members of the class of 1995 have had fewer resources to rely on. Although overall book purchases are up, these families purchased fewer books, magazines and newspapers. Children in these families spent more time watching television, an average of nearly six hours a day. Research confirms that children of families without reading materials will be less literate than those of families rich in reading resources.

Hiring the Class of 1995

Given that there are some fairly reliable indicators of what the educational and training needs of the class of 1995 are likely to be, what is the business community doing to prepare for this new wave of job entrants? The answer: relatively little thus far. Conference Board survey data, confirmed by personal interviews, show that few corporations are engaged in planning aimed at addressing these issues. There are exceptions: A few companies are looking at what is just over the horizon and beginning to marshal resources to deal with it. Some have established task forces on "managing a *diverse* work force." The term "diverse," in this context, is a euphemism for a work force with more women, more minorities and fewer literate workers.

Some companies are trying to change the nature of the jobs themselves—accommodating the jobs to the reduced skills of the workers. But often this is not possible; technology tends to increase rather than reduce the range of skills that workers need. "We have tried to automate a number of our production operations in order to reduce the skill levels that new hires may need," says a vice president of a manufacturing company. "But it does not work. The automated factory requires workers with even higher skill levels than the more traditional manufacturing process."

Planning for the class of 1995 has also been complicated in many surveyed firms by the ongoing turmoil of downsizing and "delayering." Corporate staff functions devoted to organizational training and development have shrunk or disappeared. This has led to a certain amount of pessimism on the part of some human resources managers. An executive of an office-products manufacturer says:

> "During the 1960s and 1970s our company—and many others—pursued a policy of people investment. We spent a lot of money on training and recruiting people. The 1980s has been a decade of people disinvestment. We have become preoccupied with mergers, acquisitions, LBOs and downsizing. The issue of where we are going to get the next generation of workers has not even occurred to many of our senior managers. Besides, many of them will not be around when the people crunch arrives."

Another human resources manager has noticed "a certain amount of naivete as far as our ability to get qualified entry-level job applicants. Many of our senior managers, despite all the media attention to the issue, still have not grasped the fact that there are not large numbers of young men and women out there waiting for our jobs."

How Many Americans Are Illiterate?

Determining how many people are illiterate is a vexing task. The problem is compounded by the wide variety of definitions of illiteracy employed by agencies and researchers, and by the absence of universally acceptable standards and testing methods that could be applied to this country's heterogeneous population.

The popular assumption that there is a single acceptable and permanent standard of literacy is false. Each passing decade has witnessed a "trading up" in the definition of literacy. A century ago, you were considered literate if you were simply able to sign your name. If that standard were applied today, almost everyone would be literate. At the end of World War II, a fourth-grade education was considered sufficient. By that measure, 95 percent of today's job applicants would be literate. By the time Lyndon Johnson began his War on Poverty in 1961, the standard had moved up to an eighth-grade education or the equivalent which would cover 80 percent of today's job applicants.

Today, most employers require entry-level workers to possess a high school diploma or a GED certificate (from the General Educational Development program) which qualifies as the equivalent. Such a diploma is supposedly proof of literacy. The current national estimate of educational attainment is that about 75 percent of people 18 or older are high school graduates, with those holding GED certificates adding several percentage points. All of these are presumed to be literate and employable. Yet employers report that many applicants cannot qualify for entry-level jobs because they cannot read or lack other basic skills expected of young people who have completed 12 years of schooling. Why this discrepancy? One answer lies in either the testing methods used or the gap between years of schooling completed and the ability of applicants to perform job-related tasks, or both.

Who Are the Illiterates?

In 1982, the Bureau of the Census estimated that 13 percent of all adult Americans could not pass a basic English Language Proficiency exam. Thus, between 17 million and 21 million Americans were thought to be illiterate. The vast majority of these people were under 50 years old, and either in or eligible for the work force. Of this group 41 percent lived in urban centers and 37 percent were non-English speakers at home. Of those who spoke English as their native language, 70 percent had failed to complete high school. Moreover, 42 percent of the illiterates were unemployed and had had no earnings the previous year. The latter is significant, since studies that have focused on literacy in the work force have tended to ignore those who would be employed but for basic skill deficiencies.

The National Assessment of Educational Progress, known as "The Nation's Report Card," published a study in 1986 that attempted to create a literacy "profile" of young adults, ages 21 to 25. This study

Table 1: Percentage of Young Adult Population at or Above Average Reading Proficiency

	Level of Education		
Grade Level	*0-8 Years*	*9-12 No Diploma*	*H.S. Diploma*
11	15.1%	27.4%	55.9%
8	37.0	53.6	77.9
4	73.3	76.1	94.7

Source: *Literacy: Profiles of America's Young Adults*, NAEP, Princeton, New Jersey, 1986, p. 40.

used a sample of 3,600 young adults from 40,000 households, representing the 21 million people in this age bracket. Each of these 3,600 young adults was interviewed and tested on such tasks as:

- reading and interpreting prose, as in newspaper articles, magazines and books;
- identifying and using information in documents, such as forms, tables, charts and indexes; and
- applying numerical operations to information contained in printed material, such as menus, checkbooks, and advertisements. [3]

This examination provided the basis for judging the ability of young people to handle the more complex tasks of work and day-to-day living.

The major conclusion of the survey was that " 'illiteracy' is not a major problem of this population. However...'literacy' is a problem." [4] The survey found that by historical standards, such as the ability to sign one's name or years of schooling completed, more than four-fifths of these young adults were literate. But more than half fell into the category termed "mid-level literacy": They were able to perform most basic tasks, but were likely to encounter difficulties in accomplishing the more complex tasks demanded of the work force 10 years from now. Five percent of those tested could not perform at a fourth-grade level; one percent could not qualify for testing at all.

Specifically, the survey found that about 95 percent of those holding high school diplomas could read at a fourth-grade level and almost 78 percent had eighth-grade level reading proficiency, but only 56 percent could read at an eleventh-grade level. Among those who had some high school but received no diploma, only 27 percent could read at the level of an eleventh grader and 53.6 percent at that of an eighth-grader. Overall, only 37 percent who had had up to eight years of schooling could read with eighth-grade proficiency.

In addition, the survey found some startling examples of the inability of those young adults to translate

[3] Irwin S. Kirsch and Ann Jungeblut, *Literacy: Profiles of America's Young Adults*, National Assessment of Educational Progress, Educational Testing Service, Princeton, New Jersey, 1986, p. 3.

[4] Ibid, p. 5.

Table 2: Illiteracy Estimates by State

States	*Percent of Population*	*Illiteracy Rank*[1]
Utah	6%	1
Alaska, Wyoming	7	2
Colorado, Idaho, Montana, Oregon, Washington, Vermont	8	4
Kansas, Minnesota, Nebraska, Nevada, New Hampshire	9	9
Iowa, Wisconsin	10	14
Delaware, Indiana, Maine, Massachusetts, Michigan, Ohio, Oklahoma, South Dakota	11	17
Arizona, Connecticut, Maryland, Missouri, North Dakota, Pennsylvania	12	25
Alabama, Virginia	13	31
California, Georgia, Illinois, New Jersey, New Mexico, North Carolina, West Virginia	14	33
Arkansas, Florida, Hawaii, Kentucky, Rhode Island, South Carolina, Tennessee	15	40
Louisiana, Mississippi, New York, Texas, District of Columbia	16	47

Source: Office of Educational Research and Improvement, U.S. Department of Education.
[1] Ranked in order. The higher the number, the greater the percentage of illiteracy.

school-based literacy into the solution of everyday problems. For example:

- Four out of five young adults had difficulty translating a bus schedule.
- Two-thirds of the young people tested could not follow map directions.
- Nearly three-quarters could not understand a long feature story in a newspaper.
- Approximately 28 percent were unable to write a letter complaining of incorrect billing.
- One out of five could not locate gross pay on a weekly pay stub.

The hope that short-term remedial programs could raise the level of literacy for the lowest five percent of the population tested—and for many other "moderately literate" people—was dampened by the finding that those low in literacy tended also to be low in oral-language competence. Such people require longer periods of training to make significant improvement.

Defining Illiteracy

Some of the executives questioned had difficulty defining literacy. They "knew it when they saw it"—or when they did not see it—but were not able to say what it was. Academicians have had similar difficulties. Current studies on literacy tend to focus on the measurement of specific skills, the combination of which creates a literacy profile. The skills might include the ability to read and interpret prose, to use information found in forms, tables and charts, and to apply arithmetic operations in printed materials such as invoices and schedules. In determining comprehensive literacy, each of these skills would be tested and evaluated. Jeanne Chall, director of Harvard University's reading lab, divides adults seeking literacy into three major groups:

"*Totally Illiterate*—Skills are below the fourth-grade level and the individual cannot acquire information through print.

Functionally Illiterate—A person who can read between the fourth- and eighth-grade levels, the minimal level needed to survive.

Marginally Literate—A person who can read between the eighth- and 12th-grade levels, but lacks the 12th-grade equivalence needed in a complex technological society." [1]

In the 1986 report, the National Assessment of Educational Progress defined literacy as follows:

"Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential." [2]

This definition is more functionally oriented. What matters is whether one can accomplish basic tasks required in a complex society, not the number of years spent in school.

The United Nations Educational Scientific and Cultural Organization (UNESCO) has taken a similar approach in defining a literate person:

"A person is literate when he [or she] has acquired the essential knowledge and skills which enable him [or her] to engage in all those activities in which literacy is required for effective functioning in his group or community...." [3]

[1] *LSCA Programs: An Action Report II*, U.S. Department of Education, Washington, D.C., April, 1989, p. 3.

[2] Irwin S. Kirsch and Ann Jungeblut, *Literacy: Profiles of America's Big Adults*, National Assessment of Educational Progress, Educational Testing Service, Princeton, New Jersey, 1986, p. 3.

[3] Selden Ramsey, *Education*, "Fourth Report of the National Council on Education Research," Washington, D.C., NIE 1978-79, p. 32.

There are popular misconceptions about the nature of illiteracy and its distribution. Contrary to what many believe, income level is a better predictor than race or national origin. And no area of the nation is immune. Illiteracy is not solely the province of poor, rural regions or of slums and inner-city ghettos. In Massachusetts, a state whose economy is built largely on high technology industry, it is estimated that 1.3 million people, or 27 percent of the adults, lack a high school diploma. Most of these are rated as functionally illiterate. [5]

The National Assessment of Educational Progress study extrapolates from the five percent of people between 21 and 25 years old with less than fourth-grade abilities, and estimates that there are at least 10 million people of similarly low literacy in the adult population. Yet this estimate is conservative: It does not include those who were incapable of being tested, those in institutions, or the homeless. Nor does it accurately count people 65 or older, a group whose percentage of members with less than five years of school is more than twice that of the general population.

Whatever the estimate of the number of illiterates, it is vital to understand the implications. W. Ross Winterowd, an astute observer of literacy and its impact on society, makes these comments:

"In the last decades of the twentieth century, universal education has become not only a democratic ideal, but also a social and economic necessity ... but even though reading seems so easy and inevitable to us, estimates of the functionally illiterate adults in the United States range from 25 to 57 million—a vast quantity in a society that increasingly trades in information." [6]

[5] *New York Times, Special Supplement: Education*, January 21, 1990 p. 7.

[6] W. Ross Winterowd, *The Culture and Politics of Literacy*, Oxford University Press, New York, 1989, p. 86.

Table 3: Minimum Levels of Education for Entry-level Jobs

	Percent Distribution (by industries)		
Minimum Education Level	*All Industries*	*Manufacturing*	*Service*
None	5.6%	3.2%	7.6%
H.S. or GED	80.0	73.0	85.9
College	5.6	7.9	4.3
Other*	8.8	15.9	2.2

* Specialized vocational or technical training.

Company Efforts to Test for Literacy

Four-fifths of the companies surveyed by the Board require a high school education for most entry-level jobs. Fourteen percent set even higher educational requirements. Fewer than six percent of the survey respondents were willing to hire someone with little or no schooling. As might be expected, fewer manufacturing companies—73 percent—required a high school education for an entry-level job than did service companies, almost 86 percent of whom had such a requirement.

More than 70 percent of the firms surveyed do not formally test entry-level job candidates for reading and

The Changing Level of Educational Attainment

During the 1970s, the educational level of the work force with a high school education or less was declining at an annual rate of 1.25 percent for men and 1.27 percent for women. This rate of decline was almost twice that of the 1960s. In large measure, this increase in less educated workers occurred because of the unusually large numbers of workers aged 25 to 34 (and not previously in the work force) needed to fill jobs. In the 1960s, the annual rate of new entries to the work force was 0.5 percent. In the 1970s it was 10 times greater.

As the 1980s began, the entry of new workers of this age slowed dramatically. So did the number of jobs in the work force for those with 12 or fewer years of schooling, falling by an annual rate of .46 percent for men and .90 percent for women.[1] In effect, fewer workers—with the same or lower educational credentials—had less effect on the overall education level of the work force.

Meanwhile, according to many of the executives surveyed, educational requirements for their companies' jobs continued to climb. This mismatch between rising company needs and the slow-paced improvement of the educational level of the work force is expected to persist.

[1] Kevin Murphy, "The Education Gap Rap," *The American Enterprise*, March 1990, p. 63.

writing skills, except where such skills are essential for job purposes, as in clerical positions. Most companies rely instead upon an applicant's ability to read and fill in the job application as proof of literacy, or assume that the applicant is literate because he or she has the required high school education. Fewer than half of the responding companies actually ask to see high school diplomas or school transcripts, or check with school authorities. Employers cite various reasons for this:

"It takes too long to get records from the local schools—sometimes several months. In a lot of the cases, by the time we get the records the applicant would have left or we would already know if he meets our standards."

A Trucking Company

"Looking at records applicants provide may not help much because they can alter them to make themselves look more competent than they are."

A Financial Services Firm

"What good does it do to verify the diplomas? They finish and get diplomas but they still cannot read or write very well."

A Consumer Goods Manufacturer

Four out of five companies characterize the reading requirements for their entry-level jobs as "moderate." Only 14 percent report low or minimal requirements.

Other studies have confirmed comparable low levels of literacy testing. A 1989 study by the American Management Association, conducted among smaller companies, found that only 34 percent of the firms evaluated the reading skills of job applicants. Eighty-four percent of these firms said that when they found inadequacies in reading or writing ability, they refused to hire the applicant. The refusal to hire underskilled job applicants is consistent with the findings of the Board's study. Among the responding companies, almost all of them large employers, two out of three reported that they did not make it a practice to hire unskilled applicants with the intention of providing remedial training in the basic literacy or mathematical skills.

Table 4: Reading Requirements for Entry-level Jobs

	Percent of Distribution		
Degree of Reading Skills Required	*All Industries*	*Manufacturing*	*Service*
Low or Minimal	14.2%	21.9%	9.7%
Moderate	81.5	73.4	87.1
Advanced	4.3	4.7	3.2
	100%	**100%**	**100%**

As noted previously, formal testing for reading or writing skills for other than clerical jobs is the exception rather than the rule. Some recruiters worry that testing for skills, unless they are job-related, could be considered discriminatory. Yet, as we have seen, companies describe the reading requirements of their entry-level jobs as moderate. That should be reason enough to apply some simple tests.

Educators have devised a variety of tests to measure literacy. One of these, the Measure of English Language Proficiency (MAEP), was used by the U.S. Census Bureau in 1982 in a study commissioned by the Department of Education. The written portion of the MAEP consisted of 26 questions testing the individual's ability to identify key words and phrases and then match these with one of four fixed-choice alternatives. In the 1982 study, a score of 20 correct answers was the passing threshold. Fewer than one percent of those who had had some college education failed to get at least 20 answers correct, compared with more than half of those with less than eight years of schooling.

Although such tests readily measure gross differences in language proficiency—which may be due to widely disparate levels of education—they are less useful in distinguishing between two candidates with comparable education and marginal levels of literacy. Nevertheless, in the everyday world of hiring and recruiting, these are the kinds of distinctions that employment managers are often called on to make.

The Costs of Illiteracy

Illiterates in the Work Force

Though fewer than 3 percent of the surveyed companies actually test or audit their work force for basic skills, most have been able, through observation and experience, to make an estimate of what percentage of their employees are functionally illiterate. Less than 15 percent of the respondents estimated illiteracy among their workers to be more than 10 percent. The majority—55 percent—said that 5 percent or less of their work force was illiterate, and more than 13 percent of the companies reported that they had no or few illiterates among their employees.

Three out of four manufacturing companies estimated their percentage of illiterate employees as 10 percent or less. In three out of four service companies the estimate was less than 5 percent.

Consequences of Illiteracy in the Workplace

It is evident that illiterate workers create problems in the work place. Almost 14 percent of those responding to the Board's survey say that they could trace work delays or stoppages to illiterate workers. Among the typical disruptions reported are:

- Clerks send out instructions that contain typos or factual errors. The instructions must be recalled and corrected.
- Accounting clerks bill customers incorrectly, and thousands of dollars in accounts receivable are lost.
- Production workers incorrectly measure raw materials because of an inability to read, and these errors result in production waste. (Sixty-three percent of the members of the National Association of Printers and Lithographers report serious materials losses due to press operators who cannot interpret simple directions.)
- Plant workers unable to read manuals maintain machinery inadequately, causing breakdowns.

Table 5: Estimated Illiterates in Work Force (percent of employees)

Percent of Employees	*Actual*	*Percent of Companies Reporting Cumulative*
0-1	13.1	13.1
1	17.2	30.3
2	11.7	42.1
3	4.1	46.2
4	2.1	48.3
5	20.0	68.3
6-8	6.9	75.2
10	11.0	86.2
12-15	7.6	93.8
15+	6.3	100.1*

* Total more than 100 percent due to rounding.

Skills Lacking in the Work Force

In 1988, the U.S. Department of Education and the U.S. Department of Labor jointly reported on a survey of employers. Among the results:

- Half of the companies found that their managers and supervisors were incapable of writing paragraphs free of grammatical errors.
- Thirty percent of the firms said they had secretaries who could not read at the level required by their assignments.
- More than half of the companies said that their skilled employees—including those in accounting functions—were unable to use fractions and decimals in mathematical computations.
- Two-thirds of the firms believed that the lack of basic literacy and computational skills was limiting the further employment opportunities of their employees.[1]

[1] *The Bottom Line: Basic Skills in the Workplace*, U.S. Department of Education and U.S. Department of Labor, Washington, D.C., 1988, p. 2.

- Order clerks misinterpret customers' instructions and send the wrong product or incorrect amounts.

Since these are generally entry-level tasks, survey respondents say, workers' reading deficiencies are often not discovered in time.

Illiteracy is also a real threat to the safety of other workers. The Occupational Safety and Health Administration believes that there is a direct correlation between illiteracy and some workplace accidents. OSHA is now working with the Employment and Training Administration of the Department of Labor to analyze the relationship; the ETA is spending about $11 million on 41 research and development projects in this area. [7]

Problems in Recruitment

For many executives, the first real brush with the literacy issue comes when they attempt to hire new workers. It is then that they discover that the pool of qualified talent is drying up. More than 18 percent of the firms studied by the Board report difficulties finding people who can read well enough to qualify for entry-level jobs. More than half of these respondents describe the task as "very difficult."

Table 6: High School Graduates, 18-Year-Old Population, 1975-2000 (in thousands)

Year Ending	*H.S. Graduates*	*18-Year-Old*	*H.S. Grads Percent of 18-yr.-old*
1975	3,133	4,256	73.6%
1980	3,043	4,243	71.7
1985	2,677	3,634	73.7
1990 (proj.)	2,603	3,491	74.6
1995 (proj.)	2,608	3,400	76.7
2000 (proj.)	2,920	3,756	77.7

U.S. Department of Education, National Center for Education Statistics "Projections of Education Statistics to 2000." Table prepared April, 1989.

According to demographic projections, current birthrates will reduce the labor pool in the years immediately ahead. Despite a growth in the percentage of grade-school students entering high school, actual school enrollments and completions are down from 1975 levels. These numbers will rise slowly in the coming decade—but not to the levels of the 1970s.

Finding young people who can qualify for employment has proved difficult for many firms. At Southwestern Bell, for example, the personnel department had to process 15,000 application forms just to come up with 3,700 applicants for the hiring test. And, only 800 of those managed to pass the 85-question entry-level exam. [8]

A. G. Edwards, Inc., a brokerage firm, reports that it can find only one qualified applicant in every 12 examined. And the vice president of manufacturing in one appliance producer said:

> "We're all suffering from 'applicant shock.' Two decades ago we could look forward to Joe, our maintenance supervisor's son, coming in to apply for a mechanic's job. But Joe's son is studying medicine at Columbia. And Sal, our shipping manager's son, is preparing to be a lawyer at Fordham. That's great for the future, when I get sick or need a lawyer. But right now I need clones of Joe and Sal. Instead, what I get are people who cannot even fill out the application form, let alone follow instructions when they are hired."

Screening many more applicants is both expensive and time-consuming. Some of the companies surveyed report that their recruitment costs have doubled in the past few years as they have had to cast their nets over increasingly larger areas.

Recruitment problems are exacerbated by high turnover. One textile company, for example, reports a more than 100 percent turnover each year, doubling its usual hiring costs. In effect, the firm hires a whole new work force each year.

Reduced Work Force Flexibility

In order for American firms to regain—or retain—their competitive advantage, they must employ a work force that is able to use new tools and technology. Workers must be able to assume greater responsibility for the work assigned to them and be able to shift smoothly from single, repetitive tasks to those requiring a higher order of skill. These workers must also be able to function as part of a team. Often, survey participants report, illiteracy is a formidable barrier to such upgrading. Almost half the companies responding to The Conference Board's survey report that between 15 percent and 35 percent of their current employees are incapable of doing more complex work. Ten percent of the respondents believe that up to half of their current workers lack the skills needed for promotion.

Respondents offered numerous examples of the effect of illiteracy on work force flexibility. The senior human resources executive of a machinery producer said that as his firm has gone to computer-assisted procedures, it has found workers unable to follow instructions for changing machine settings. This requires increased supervision and more quality-control checks. Another executive reported that some of the workers in his company, some with 15 to 20 years of service with the firm, were unwilling to adopt new techniques even though they might improve productivity. "They are

[7] John C. Bruening, "Workplace Illiteracy: The Threat to Worker Safety," *Occupational Hazards*, October 1989, pp. 118-122.

[8] Bill Richards, "Wanting Workers," *The Wall Street Journal*, February 9, 1990.

Table 7: Job Skill Deficits Posing Difficulty for Employers (Percent of Response)

	Percent of Companies		
Skills Area	*All Industries*	*Manufacturing*	*Service*
Reading	16.0%	17.2%	16.0%
Basic mathematics	20.2	17.2	23.4
Written communication	22.7	21.9	24.5
Oral communication	14.7	6.3	21.3
Computer capability	10.4	9.4	11.7
Work readiness*	17.2	12.5	21.3

* Attendance, dress, cooperation, etc.

afraid to make mistakes," he said, "or lack the confidence to adapt to change."

Areas of Greatest Deficiency

The survey asked human resources executives to identify which literacy skills new hires most often lacked. Six areas were chosen: reading and interpretation, basic mathematics, written communication, oral communication, computer capability and work readiness.

There are some significant differences between manufacturing and service industries. Service firms rank oral communication substantially higher than do manufacturing companies, reflecting the need for greater contact between the business and the customer.

Companies in all industries report that they have the most difficulty with written communication. Increasingly, managers report, even low-level jobs require some degree of writing ability, which seems to be difficult for almost a quarter of new hires.

"This is a paperwork society," one transportation-company executive says. "Even our shop mechanics must be capable of reporting the nature of a mechanical failure. We need these reports to manage our fleet, so accurate reporting is as much a part of the mechanic's job as the ability to handle a wrench."

"Written communication is a disaster," says another manager. "The spelling is atrocious, and many appear to have such a limited vocabulary that they cannot write the simplest report." In a number of companies, managers have had to interview their employees regularly or take tape-recorded reports. Others have devised forms that can be completed by checking off boxes.

Problems with Mathematics

With American students lagging behind nearly all of our international competitors in math skills, it is no surprise that employers are having problems. It is almost a given that large numbers of entry-level applicants will have limited skills in basic mathematics. In fact, few of the companies studied even test applicants' math skills—perhaps because prior testing has already shown them what to expect.

"To the extent possible, we try to design math out of our entry-level jobs," a manufacturing executive says. An executive from a natural-resources firm says, "Mathematics is the supervisor's job. We cannot depend on most new entry workers to have anything but the most rudimentary of numbers skills. I have no confidence in their ability to do simple multiplication or division."

Company Programs to Combat Illiteracy

In deciding how companies should address the literacy problem, human resources executives face three primary questions. The first is what the company's policy should be on basic skills training. The second, if there is to be some sort of training, is who has the primary responsibility. The third is which of several available options to select.

Company Policy and Practice on Basic Skills Training

Basic skills training usually focuses on newly hired employees. But now, the managers surveyed say, companies are broadening their horizons to include their existing work force as well.

About a third of the companies surveyed say they hire applicants with borderline skills with the intention of upgrading these skills through company training programs. In most cases such training is vocational and conducted on company premises. If literacy problems are found, companies will refer the employee to an outside training source. Less than 15 percent of the firms contract for remedial literacy programs. Most of these rely on contracts with local school systems.

According to a 1989 survey conducted by *Training* magazine, only 11.3 percent of the companies studied provided any remedial education in reading or writing. [9] An American Management Association survey of 1,000 human-resources managers found less than 10 percent of the companies offering such training. [10]

The size of the company and its work force often determine whether literacy training will be offered. In the AMA study, fewer than 10 percent of the smaller firms (those with less than $100 million in annual net sales) provide any formal training; nearly a third of major companies (more than $1 billion in annual sales) have training or orientation programs for new hires.

[9] Chris Lee, "Industry Report 1989, The 3 R's," *Training*, October, 1989, pp. 67-76.

[10] Eric Rolfe, "Corporate Testing for the Three R's," *Management Review*, April, 1989, pp. 56-58.

Companies sometimes presume that new hires with high school diplomas will have adequate skills. "We assume," said one firm's training director, "that newly hired employees will have at least basic reading and math skills that a high school graduate is supposed to have. But in lots of cases we are wrong. About a quarter of our new hires do not make it through the three-week training course. They drop out. Often, it is because of literacy problems."

The remaining two-thirds of the surveyed companies, which do not provide such training, expect workers to pick up job skills on the job. Many low-literacy workers, the executives say, learn to do a series of assigned tasks by listening and watching. "It's a see-and-do training system," one respondent explained. "There is nothing to read, and very little, if anything, to write."

Who Has the Training Responsibility?

Most employers do not see it as their job to overcome the illiteracy of their workers through remedial training. A number of those interviewed said that their firms do not have the specialists needed for this task.

"We would not know where to start," said one personnel manager. "We just do not have any experience or skill in this type of training." Another executive voiced his view in more cynical tones. If the company trained new hires, he said, "it would be for someone else's benefit, since they would probably move on to better jobs at the end of the training." Other executives cited economy-of-scale considerations, saying that there were not enough literacy-deficient employees to warrant setting up special programs.

Company Programs

Companies interested in supporting or participating in employee literacy programs have numerous choices. The first is whether to provide simple financial support to programs or to participate. More than two-thirds of the companies surveyed say they are contributing

money to local or national programs combatting illiteracy. Chrysler Corporation, for example, made a grant of $2.1 million to *Reading Is Fundamental*, a national program to supply free books for school libraries and classrooms. Many firms have given financial support to the literacy promotion activities of the Business Council for Effective Literacy. Many of the programs supported are conducted on a local level by schools, community colleges, social organizations or unions.

Companies can also become directly involved by providing company employees as tutors, company facilities for use as classrooms, and computers, teaching aids, books or similar items.

In analyzing companies' options, it appears that the programs fall into several basic categories:

1. *Company In-House Programs*. These are programs conducted solely or primarily for company employees.

2. *Company/Local Schools Programs*. Companies can form alliances or partnerships with one or more high schools or community colleges in programs that train both employees and community members.

3. *Company Government Programs*. Firms can join programs sponsored by local or state governments. These often involve local schools or colleges as well.

In-House Programs

By definition, an in-house program is conducted primarily for the benefit of the company's employees. In nearly all cases only a single firm is involved, although there are obviously opportunities for several firms to cooperate.

One of the earliest examples of such a program can be found at Polaroid Corporation. The program, begun in the 1960s at the urging of Edwin Land, the company's founder, focuses on a range of basic literacy and arithmetic skills. Employees are assessed by their supervisors and the human resources department, and those with reading skills below the fourth-grade level enter a tutorial program that lasts four hours per week. The instruction is tailored to the individual's job. Instructors survey each student's duties to determine precisely what reading skills are required. Students are given an alphabetized pocket guide of the words most commonly encountered in their work. The program is reinforced with bimonthly literacy breakfast meetings involving employees, counselors and instructors.

At Ford Motor Company, the company and the United Auto Workers Union have become closely involved in literacy training. Union representatives say that the training is vital to upgrading the skills—and the pay—of their members.

The Skills Enhancement Program is a joint union-management program conducted at the United Auto Workers-Ford Brownstown Education Center in Romulus, Michigan. The program, run in cooperation with Wayne County Community College, is directed by a member of the college faculty, Ruth Goldman. Goldman planned the program, set it up, hired the staff, and now runs the program under guidelines developed by the UAW-Ford National Education Training Center. The program, which is in its second year of operation, has been highly successful in providing a broad range of learning opportunities for more than 100 Ford employees, and may be a prototype for other companies. It provides individual instructions and tutorials for each of the students, whose needs and interests vary significantly. [11]

On a smaller scale, Rocco, Inc., a poultry-processing firm in Harrisonburg, Virginia, found that one in six of its nearly 2,000 employees had never finished the eighth grade and was functionally illiterate. The company obtained a $300,000 grant from the state Department of Education through a program called The Workplace Literacy Partnership Grants Program. The funds were used to obtain instructors for an in-house program. The company acquired and customized a van used to train classes of 12 employees at a time. It moves the van from one company location to another on a regular schedule, and is reported to have significantly upgraded the literacy of its workers.

Company/Local School Programs

One of the most common approaches companies take is to join a local high school or community college in a partnership aimed at improving workers' literacy. In some instances companies contract with the local school system to provide a basic literacy program that is made available to members of the community; employees in need of such training are referred to the courses. A few companies report that they allow employees time off—up to six hours per week—to attend such classes. Other companies pay the tuition costs of employees whom they refer to the school programs. But many also aid by making in-kind contributions.

There are many examples of such company/school programs. Sometimes several companies are involved, as in the Newark Literacy Campaign, The Alliance for Education in Worcester, Massachusetts, the Pittsburgh Adult Competency Program, and the Memphis Literacy Coalition (which also involves the U.S. Naval Air Station in Memphis). Sometimes individual companies form partnerships with local schools. Toyota has done this with Keefe Technical College in Massachusetts, and New England Telephone has done the same with the Dorchester, Massachusetts, school system.

Union Camp Corporation sponsors a literacy program called New Horizons at its Franklin, Virginia,

[11] Barbara McKenna, *Workplace Literacy*, "On Campus," American Federation of Teachers, November, 1989, pp. 1-2.

Advertising Literacy Programs to Employees

Those companies surveyed that are engaged in literacy programs report that they must make vigorous efforts to advertise and promote their programs. "Word-of-mouth advertising helps, but it is not enough," says the human resources manager at one Midwestern manufacturer. Typically, firms use company newsletters, bulletin-board announcements, articles in union newsletters and special meetings of employees and supervisors to promote the programs. Sometimes local newspapers publish articles on the programs.

Exhibits 1 and 2 show bulletin-board posters used by Murray Ohio, a bicycle manufacturer, and Great Lakes Steel to promote their programs to employees.

Exhibit 1

To All Employees

Murray Ohio **will begin offering Adult Basic Education classes on three levels at the Training Center on Monday, March 13th. Classes will range from learning to read to studying for the GED test.**

1st Shift: 3:45-5:15 p.m.
2nd Shift: 1:30-3:00 p.m.
3rd Shift: Either Session
Mon—Tues—Wed—Thurs

Classes Are Free And Are Open To All
Murray Ohio
Employees And Their Families!

Exhibit 2

Great Lakes Steel Career Development Center

"Now Open"
Location: Great Lakes Steel Training Center
St. Francis Xavier (SFX) Room #24

Programs: **Math, Reading, Writing, Spelling and Vocabulary Improvement, Study Skills, Speed Reading, G.E.D. Preparation, Bridge to College.**

Available: **To all hourly employees.**

Hours: **Monday thru Thursday - 1:00 to 6:00 p.m.**

Math: **Monday and Wednesday**

Reading: **Tuesday and Thursday**

Classes are available at all levels of ability.

Classes are taught on an individual basis or in a group setting.

All records are kept confidential.

The Career Development Center is part of your benefit package and all hourly employees are urged to take advantage of this opportunity.

facility. The program has been established as an adult-literacy club in coordination with the city's adult-education program. The program teaches adults to read through participation in various community activities, "literacy field trips" and other innovative learning devices. The company also operates a program at its plant in Savannah, Georgia. This program is conducted on company premises, with instructors brought in from local school systems. About 65 employees at the Savannah plant have received literacy training thus far.

Union Camp and other firms, such as IBM, Xerox and AT&T, encourage their employees to act as tutors in community literacy programs.

Warner-Lambert Pharmaceuticals has developed a video training system, which it uses to teach basic literacy and job skills to New Jersey teenagers. And in Los Angeles the Unified School District and Domino's Pizza have developed an interactive video program to teach English to 550 fast-food workers.

A number of innovative programs bring smaller employers and local school systems together. In Minnesota, the Private Industry Council and Normandale Community College are engaged in a literacy training program that has graduated 200 entry-level workers into small Minnesota firms.

In Wisconsin the State Board of Vocational, Technical and Adult Education has teamed up with the state AFL-CIO and the Wisconsin Manufacturers Association to teach English to 1,300 employees at 10 sites in the state.

Company/Local or State Government Programs

In some areas, local or state government has supplied the major initiative for literacy programs. In the State of Washington, the City of Seattle was the force behind a partnership with North Seattle Community College. Many local employers now participate in the program, and employees from these firms are referred to it.

Other states that have literacy programs include Florida, Idaho, Massachusetts, Michigan, Missouri, North Carolina, Tennessee, Utah and Virginia. The

Dealing with the Stigma

One of the primary reasons that most employers do not know with any precision how many functionally illiterate employees they have is that the subject is not openly discussed in normal employer/employee relations. The employee will not admit that he has a problem with reading and usually manages to conceal his shortcomings—partly out of embarrassment, but most often so as not to jeopardize future earnings and job advancement. Executives who were interviewed said that they were reluctant to initiate literacy testing in their companies for "fear of embarrassing or antagonizing employees."

"There is a tendency to ignore the issue," a manufacturing company manager said. "Unless it's directly affecting production, we tend to skirt around the issue because of its personal connotations. We never want to brand an employee as 'dumb,' and we are afraid that this kind of testing might do this. The problem is that we have got a number of reasonably intelligent people who just have not learned to read or write very well."

A personnel manager recalled a longtime worker who came to her in tears because she had heard a rumor that workers were going to be required to use new equipment with a video screen that provided certain information in text form. The worker knew her inability to read would be discovered, and she feared she would lose her job.

"We've found that some workers are very adept at disguising their shortcomings," another manager said. "They will ask for directions many times, even though the instruction manual is alongside their machine. They'll claim that they don't understand the directions, or that they are not clearly written. Some workers always seem to be having problems with their eyesight or their glasses—'I can't read the small print' or 'My glasses give me headaches; I need to change them.' The truth is that they simply cannot read."

major employers in these states, such as Ford Motor, Levi Strauss, IBM, Southwestern Bell and GTE, along with hundreds of smaller firms, have played an important role in establishing and supporting these programs.

The South Carolina Initiative for Work Force Excellence, one of the most extensive literacy programs, has brought together a state government and leading employers. In 1988, concerned that an estimated 300,000 adults in South Carolina did not graduate from high school and lacked essential skills needed in the work force, the State Legislature passed a broad education-reform measure with support from the state's major employers. In the first year of the measure, 338 Initiative programs enrolling more than 3,000 people were held across the state. A third of the people enrolled work for Springs Industries, Inc., the state's largest employer. Other major companies in the Initiative programs are Owens-Corning Fiberglas Corporation, Digital Equipment Corporation, Carolina Steel Corporation, Campbell Soup Company and Sun Oil Company.

Springs Industries was the first company to join the statewide literacy program which helps companies offer basic and technical education classes at work sites. Employers offer the program to employees who volunteer to study before or after work in classes or one-on-one with tutors. More than 1,800 Springs workers are enrolled in the program—some receiving their GED certificates, others taking technical training. A number of participants have been encouraged to further their education, and Springs is providing assistance for tuition and books. "I'm proud of it," said one Springs employee upon receiving his GED certificate. "I'm proud that I did go back and finish it. My daddy tried to get me to stay in school, but I wanted to work and make money. I realized it was a mistake as I grew older ... having the program offered here at the plant motivated me to go back and finish my high school education. Now I want to go on and continue learning." [12]

Programs for the Next Generation of Employees

Some of the firms surveyed report that they support literacy programs aimed at their communities' schoolchildren. In the main, these programs are designed and implemented by local school systems with sponsoring corporations providing support staff, special curriculum materials and financial assistance to hire additional teachers.

Pizza Hut's *Book It* program is conducted in classrooms across the nation, encouraging youngsters to read. The IBM *Writing To Read* program is part of the early childhood curriculum in an increasing number of schools each year. The *Time To Read* program, sponsored by Time Warner Inc., uses company publications in training and tutoring programs in diverse community locations, including prisons. The Gannett Newspapers and *The Washington Post* also conduct reading programs using their publications. The Geneva (Illinois) *Republican*, the Naperville (Illinois) *Sun* and other newspapers joined with local school districts to create a special summer reading program for grades K to 12. More than 60 local firms contributed funds to create self-teaching modules in reading and math.

Many of the companies, as noted previously, provide tutoring volunteers, who aid local schoolteachers in literacy programs. These volunteers obtain teaching suggestions and program aids from such groups as the Literacy Volunteers of America and the Laubach Literacy Action group of Syracuse, New York.

[12] "Literacy Program Offers a Second Chance for Success," *The Springs Bulletin*, Fort Mill, South Carolina, June, p. 3.

The Old Stone Bank, a commercial bank in Providence, Rhode Island, began a program designed to improve the reading habits of both children and their parents. The bank's staff helped bring together researchers from the Providence Public Library, the Department of State Library Services and local theater groups. The combined effort resulted in a "Leap into Literature" series, which has received widespread praise from communities that have used it to bolster interest in reading programs at local libraries.

Library Programs

Community groups have also sought to promote literacy, sometimes through local library systems. The Library Service program of the U.S. Department of Education has grown substantially during the past decade. Under Title I of the Library Services and Construction Act (LSCA), these projects have increased almost eightfold, from 39 in 1980 to 287 in 1986, with an annual expenditure of almost $3 million in fiscal 1986. In recent years, LSCA projects have included tutoring programs, courses for new Americans, workplace and intergenerational literacy projects, and programs for the disabled, elderly, homeless and institutionalized. [13]

The Federal Role in Literacy Programs

The federal government has been active in literacy training for a number of years through a variety of programs. These include the Job Training Partnership Act, the Carl Perkins Vocational Education Act, the Family Support Act of 1988, VISTA, and the Adult Basic Education Act. In 1988, amendments to the last of these created a Workplace Partnership Program to promote partnerships and demonstration projects on adult literacy. Thus far, 37 projects have been funded under this program. More than half focus on English as a second language. Many also provide partial financing for community literacy-training programs.

President Bush has directed the Department of Education to develop a new strategy for adult literacy, though the Department has had an Adult Literacy Initiative in the Division of Adult Education for many years. The Domestic Policy Council's Study Group on Education has identified adult literacy as its "first priority."

Congress has also awakened to the issue of adult literacy, and several major initiatives are in the offing. Senator Paul Simon has introduced the national literacy act in the Senate; the bill has cleared the Senate Committee on Labor and Human Resources, and is ready for consideration by the full Senate. This act would authorize more than $200 million for literacy training, create the first federally coordinated program, and include a national clearinghouse on literacy. The bill addresses such concerns as teacher training and the role of small employers in providing literacy training.

In the House of Representatives, Tom Sawyer of Ohio has introduced a companion bill that would establish a federal literacy center and provide employers with detailed information on model literacy programs. Both the House and Senate bills have received support from business groups.

Publicizing Illiteracy

One of the key issues in dealing with adult illiteracy involves making the public aware of the extent of the problem. Capital Cities/ABC Inc., in partnership with Public Broadcasting Service, has been able to reach millions of Americans through the 535 station affiliates of the two organizations.

This partnership has created and broadcast numerous public-service announcements on the subject of adult illiteracy and has resulted in the creation of Project Literacy U.S. (PLUS). The PLUS program has focused on creating local partnerships of educators, employers, and unions. The initial goal of the program was to establish 150 such coalitions. At last count, 427 had been created. The partnership has also created news specials and entire programs on the subject of literacy.

[13] *LSCA Programs: An Action Report II*, Office of Educational Research and Improvement, U.S. Department of Education, Washington, D.C., April, 1989, pp. 3-14.

Agenda and Conclusions

The business executives interviewed suggested a number of goals that could become a literacy agenda for business:

1. *Develop a universally accepted definition of the term "literacy."* Managers would like various "accrediting agencies," such as the U.S. Department of Education, the U.S. Department of Labor, the Educational Testing Service, the teachers unions and national associations of school boards and administrators, to agree on a single definition of literacy—including basic mathematical ability—and on tests that can be used to measure it.

2. *Institute a universal auditing system to assess the extent of workplace literacy.* Executives admit that they do not have a precise idea of how many of their current employees are functionally illiterate. They say that companies should work with unions and employee groups to develop nonthreatening testing and auditing procedures that would help pinpoint the extent to which employees lack basic skills.

3. *Determine what skills employees need to function effectively.* Too often, managers say, firms have not determined precisely what levels of skills are needed for the primary job categories in their companies. They suggest that firms collect and analyze all of the printed literature and written materials—including messages on video terminals—to determine what materials need to be read and understood on the job. There is little point, they say, in demanding skills inappropriate to the requirements of the job. They caution that companies also have to look ahead to what skills will be required in the future, and adjust their training accordingly.

4. *Take advantage of the research and skills in teaching literacy that already exist.* Executives are wary of reinventing various literacy programs, when they are not sure that they work. As part of their agenda, they urge careful consideration of any new programs and a thorough appraisal of existing ones.

5. *Institute a system that will advise local residents of the literacy scores of high school graduates.* Many of the executives questioned would like a national literacy test that would be administered to all 11th-grade students. Politically, some say, it might not be possible to develop and use such a test, but managers do want citizens to know what they are getting—or not getting—for their education tax dollars. They believe that change has to occur in each school district, and that dissatisfied parents may be the catalyst for such changes.

6. *Encourage greater use of employer consortia in literacy programs.* Many of the nation's illiterate people work for small or medium-sized firms that do not have the time, resources or inclination to engage in unilateral literacy programs for relatively few employees. The executives questioned say that greater efforts must be made to bring companies together in partnerships with schools and colleges to share both cost and expertise.

Looking Ahead

Nearly all of those surveyed agree that there is unlikely to be any quick fix to the problem of illiteracy in the work force. There is a consensus that the problem has to be attacked on several fronts simultaneously. Standards for local school systems, and the curricula to achieve these standards, have to be significantly upgraded and strengthened to reflect the new definitions of functional literacy. Simple completion of a prescribed number of years of schooling is no longer enough to provide a literate work force. These new standards will require a greater ability to read, write and interpret instructions.

Employers also face the vexing task of dealing with a large number of people already in the work force, with a projected work life of several decades, who are unable to deal with many of today's literacy standards—let alone those that will be required in the years to come. These workers will not magically become literate through on-the-job experience. Solutions based on training, such as the South Carolina Initiative, will be required to provide these workers with the skills their jobs require.

As noted, most employers do not have the in-house expertise to mount their own literacy programs. Those sur-

veyed are, however, aware of the need to devote more money and aid to such programs, and many are providing financial support for both local and national efforts. It is also clear, according to the respondents, that certain population segments will need special attention. Research confirms the common sense notion that illiteracy among the chronically unemployed is extremely high.

Respondents believe that the problem of illiteracy in the work place is so endemic to the American society that broad, systemwide approaches will be required. The problem is complicated, many say, by the lack of hard data on the actual extent of illiteracy among workers. There is a widespread reluctance on the part of employers to institute any testing or research that would reveal the degree of illiteracy in their companies. Data that are available are largely anecdotal, and are based on measurement of the incoming work force—which is only part of the problem employers face on this issue.

Finally, programs dealing with work force illiteracy have tended to be underfunded, fragmented and uncoordinated. But during the past several years the issue has caught the attention of the press, the public and the business community. More resources are being devoted to the problem, and the growth of business/public sector coalitions promises to provide a valuable new tool to help focus this issue.

Related Conference Board Publications

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